

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE MODIFICATION OF THE TRAFFIC SIGNAL AT US 1 (BELAIR ROAD) AND JOPPA ROAD/EBENEZER ROAD AND THE PERRY HALL SQUARE ENTRANCE IN BALTIMORE COUNTY. DUE TO THE GEOMETRIC CHANGES ALONG US 1, THE EXISTING VEHICULAR TRAFFIC SIGNAL HEADS WILL BE REPLACED WITH NEW BLACK FACED LED SIGNAL HEADS. THE EXISTING PEDESTRIAN PUSHBUTTONS AND SIGNAL HEADS WILL BE REPLACED WITH AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTONS AND SIGNS AND COUNTDOWN PEDESTRIAN SIGNALS. THE EXISTING VIDEO DETECTION CAMERAS WILL BE PROGRAMMED FOR PRESENCE AND SETBACK DETECTION ON JOPPA ROAD AND EBENEZER ROAD AND PRESENCE AND SAMPLING ON US 1. THE EXISTING TRAFFIC SIGNAL AT PERRY HALL SHOPPING CENTER ENTRANCE AND NORTHBOUND HIB WILL BE REMOVED. A NEW NORTHBOUND HIB WILL BE INSTALLED SOUTH OF EBENEZER ROAD. US 1 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE. THE EXISTING SOUTHBOUND RIGHT-TURN OVERLAP WILL REMAIN AND A NORTHBOUND RIGHT-TURN OVERLAP IS PROPOSED. MAINLINE AND ALTERNATE SIDE STREET PEDESTRIAN PHASES WILL REMAIN.

CONTROLLER REQUIREMENTS

THE EXISTING BASE MOUNTED CABINET, CONTROLLER, EQUIPMENT AND ASSOCIATED HARNESSES SHALL REMAIN. THE SHA SIGNAL SHOP SHALL INSTALL ONE (1) 2-WIRE CENTRAL CONTROL UNIT WITHIN THE CABINET.

APS WILL FUNCTION AS FOLLOWS:

TO CROSS NORTH LEG

A. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS BELAIR ROAD AT JOPPA/EBENEZER"

B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS EAST LEG

A. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS EBENEZER AT BELAIR ROAD"

B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS WEST LEG

A. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS JOPPA AT BELAIR ROAD"

B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

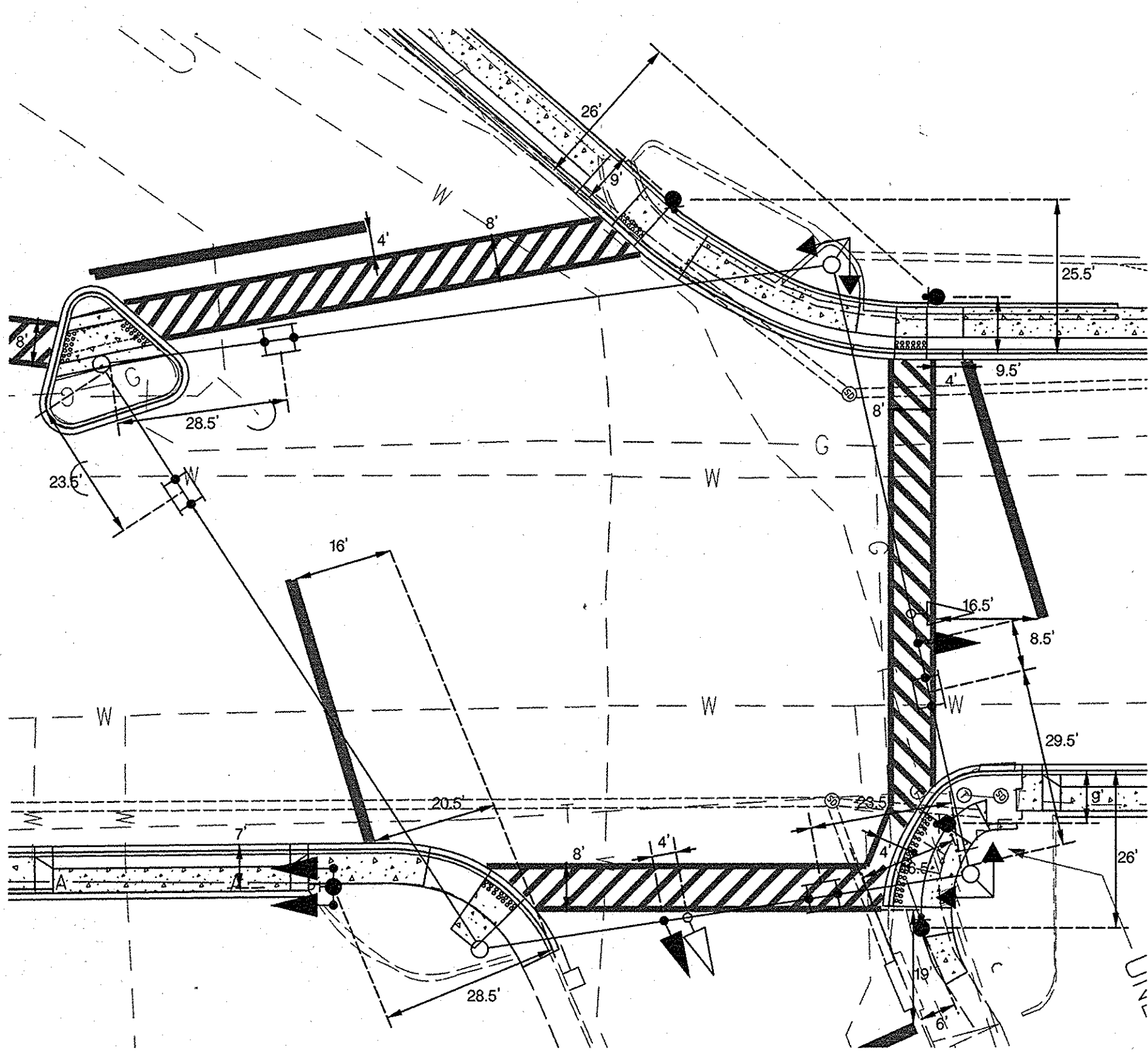
PHONE DROP

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE DROP LINE.

INSTALLATION. THE CONTRACTOR IS TO NOTIFY MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

PROPOSED SIGNAL EQUIPMENT LAYOUT

SCALE: 1" = 20'



THE CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

Ms. Erin Kuhn
Assistant District Engineer - Traffic
Phone: 410-321-2781

Mr. Michael Pasquariello
District Utility Engineer
Phone: 410-321-2841

Mr. Andre Futrell
Assistant District Engineer - Maintenance
Phone: 410-321-2761

Mr. Richard L. Daff Sr.
Chief, Traffic Operations Division
Phone: 410-787-7630

Mr. Edward Rodenhizer
Chief, SHA Traffic Signal Shop
Phone: 410-787-7650

The Power Company Representative is:
Baltimore Gas & Electric Company
7317 Parkway Drive South
Hanover, MD 21076
Phone: 410-859-9062

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

CATEGORY CODE	QUANTITY	DESCRIPTION
973023	164 SF	SHEET ALUMINUM SIGNS:
	2 EA	D-3(1) (96 IN. x 16 IN.) BELAIR RD, DUAL FACED
	1 EA	D-3(1) (96 IN. x 16 IN.) JOPPA RD, DUAL FACED
	1 EA	D-3(1) (96 IN. x 16 IN.) EBENEZER RD, DUAL FACED
	5 EA	SI-1 (36 IN. x 36 IN.)
	1 EA	S4-3 (36 IN. x 12 IN.)
	1 EA	S4-4(1) (30 IN. x 15 IN.)
	4 EA	M6-2(MOD) (21 IN. x 15 IN.) FYG
	1 EA	ASSOCIATED SHIELD ASSEMBLY (24 IN. x 51 IN.) *NORTH, US 1, RIGHT ARROW*
	1 EA	ASSOCIATED SHIELD ASSEMBLY (24 IN. x 51 IN.) *SOUTH, US 1, RIGHT ARROW*
	1 EA	ASSOCIATED SHIELD ASSEMBLY (36 IN. x 75 IN.) *NORTH, US 1, LEFT ARROW*
	1 EA	ASSOCIATED SHIELD ASSEMBLY (36 IN. x 75 IN.) *SOUTH, US 1, LEFT ARROW*
	2 EA	R10-3(1) (9 IN. x 15 IN.) *PUSH BUTTON TO CROSS BELAIR ROAD*
	2 EA	R10-3(1) (9 IN. x 15 IN.) *PUSH BUTTON TO CROSS JOPPA ROAD*
	2 EA	R10-3(1) (9 IN. x 15 IN.) *PUSH BUTTON TO CROSS EBENEZER ROAD*

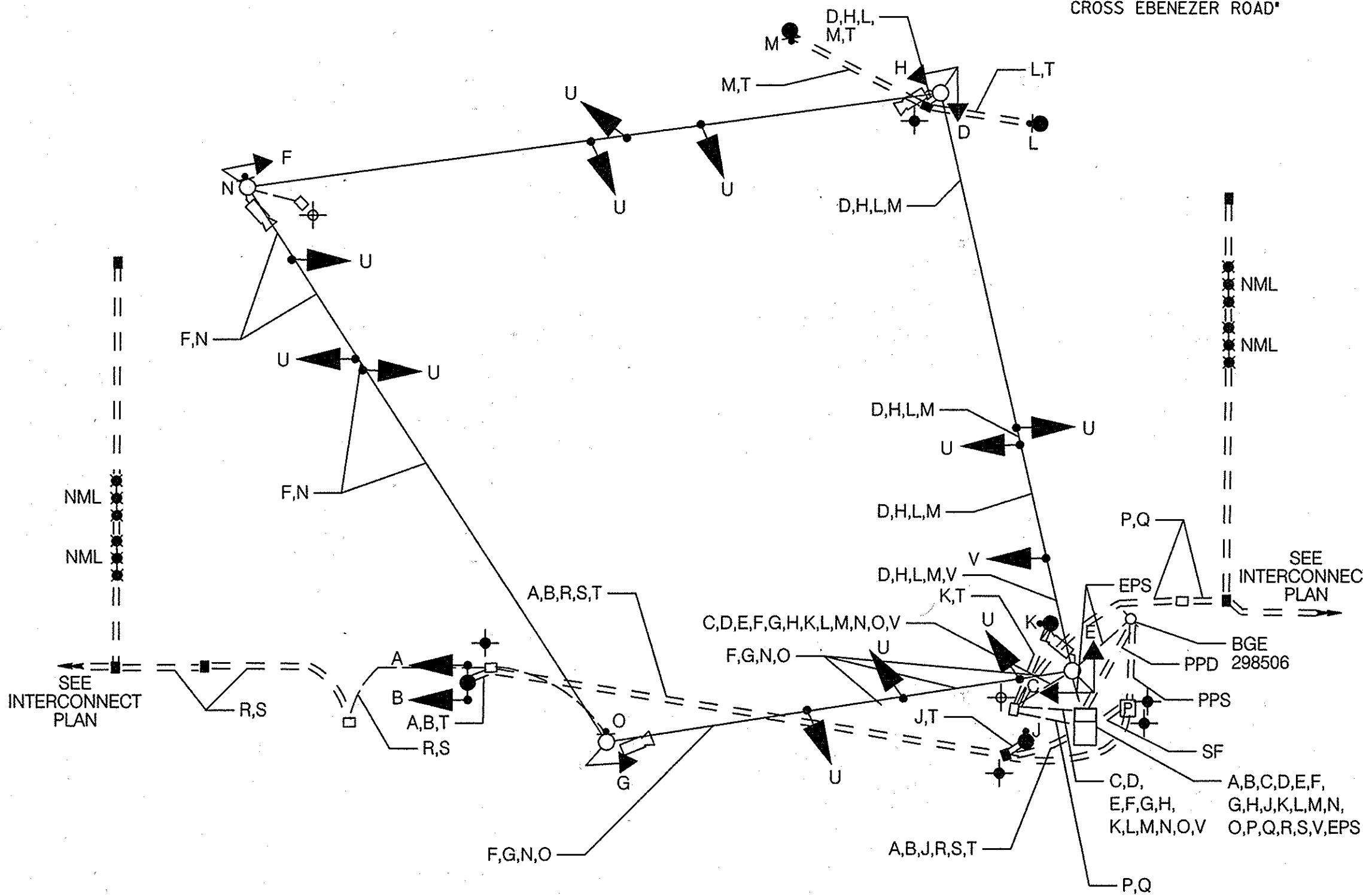
EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

CATEGORY CODE	QUANTITY	DESCRIPTION
816001	1 EA	VIDEO DETECTION CAMERA

THE CONTRACTOR SHALL CONTACT THE SHA SIGNAL SHOP TO SALVAGE THE VIDEO DETECTION CAMERA AND ASSOCIATED EQUIPMENT. ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR

WIRING DIAGRAM



A
B
C
D
E
F
G
H
J
K
L
M
N
O
P
Q
R
S

ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)

NON-INVASIVE DETECTOR, 500 FOOT LEAD-IN CABLE

NO. 6 STRANDED BARE COPPER WIRE

USE EXISTING WIRING

ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

NML - NON-INVASIVE MICROLOOP PROBE SET

PPD - PROPOSED UNDERGROUND PHONE DROP TO BE INSTALLED BY OTHERS

EPS - EXISTING POWER SERVICE

PPS - PROPOSED UNDERGROUND POWER SERVICE (TO BE INSTALLED BY BG&E)

PROPOSED GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH.

EXISTING GROUND ROD

SF - SERVICE FEED (ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG - THHN/THWN)

PROPOSED METERED SERVICE PEDESTAL

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

CATEGORY CODE	QUANTITY	DESCRIPTION
203030	5 CY	TEST PIT EXCAVATION
800000	1 EA	4 INCH CONDUIT BEND IN BASE MOUNTED CABINET
800000	1 EA	2-WIRE CENTRAL CONTROL UNIT
800000	6 EA	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	6 EA	AUDIBLE/TACTILE PUSHBUTTON STATION AND SIGN
800000	6 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION - POLE MOUNTED
800000	1 LS	REMOVE AND DISPOSE OF EXISTING TRAFFIC SIGNAL EQUIPMENT
801004	2 CY	CONCRETE FOR SIGNAL FOUNDATION
802145	1 EA	ADJUST EXISTING HANDHOLE
802501	190 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805125	50 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805135	400 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	140 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805150	150 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
805155	130 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
807202	1 EA	METERED SERVICE PEDESTAL
810010	20 LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG - THHN/THWN
810601	4 EA	NONINVASIVE DETECTOR, 500 FOOT LEAD IN CABLE
811001	5 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
811002	6 EA	REMOVE ELECTRICAL HANDHOLE
813015	164 SF	INSTALL OVERHEAD SIGN
818004	4 EA	10 FOOT BREAKAWAY PEDESTAL POLE
818010	1 EA	14 FOOT BREAKAWAY PEDESTAL POLE
837001	5 EA	GROUND ROD - 3/4 INCH X 10 FOOT LENGTH
860284	51 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860292	2 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861105	1,010 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1,270 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	85 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
873001	1 LS	REMOVE AND SALVAGE EXISTING EQUIPMENT

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	15	16	17	18	19	20	
PHASE 1 AND 5	R	G	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																			
PHASE 1 AND 6	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	
1 CHANGE													DW	DW	DW	DW	DW	DW	
PHASE 2 AND 5	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	
5 CHANGE													DW	DW	DW	DW	DW	DW	
PHASE 2 AND 6	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	
PED CLEARANCE	G	G	G	G	G	G	G	G	G	G	G	G	FLW	FLW	FLW	FLW	FLW	FLW	
2 AND 6 CHANGE													DW	DW	DW	DW	DW	DW	
PHASE 3	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	
PHASE 3 CHANGE													DW	DW	DW	DW	DW	DW	
PHASE 4	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	
PHASE 4 CHANGE													DW	DW	DW	DW	DW	DW	
PHASE 4 ALT	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	
PHASE 4 PED CLEARANCE	R	R	R	R	R	R	R	R	R	R	R	R	FLW	FLW	FLW	FLW	FLW	FLW	
PHASE 4 ALT CHANGE													DW	DW	DW	DW	DW	DW	
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	DARK	DARK	DARK	DARK	DARK	DARK	

HIB PHASE CHART

	13	14
NORMAL OPERATION	DARK	DARK
SPECIAL OPERATION	FLY	FLY

SHA

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
US 1 (BELAIR ROAD) AT
JOPPA ROAD / EBENEZER ROAD

GENERAL INFORMATION

SCALE: 1" = 20' DATE: MARCH 2008 CONTRACT NO.: BA4855187

DESIGNED BY: SBS COUNTY: BALTIMORE

DRAWN BY: SBS LOGMILE: 03000119.59

CHECKED BY: BAB TMS NO.: I-425

FAP NO.: SEE TITLE SHEET TOD NO.:

TS NO. 564G DRAWING SG - 4 OF 6 SHEET NO. 25 OF 38